IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Ryoto Shima et al.	Confirmation No.: 5304
Serial No.:	10/509,267	
Group Art Unit:	1796	
Filed:	October 27, 2004	
Examiner:	Nguyen, Khanh Tuan	
For:	ELECTRICALLY CONDUCTIVE SILICONE RUBBER COMPOSITION	

DECLARATION UNDER 37 CFR § 1.132

MAILSTOP: AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

I, Kazumi Nakayoshi, hereby state that:

1. I am a citizen of Japan.

2. I have a bachelor degree from KYUSHU University in Fukuoka Prefecture, Japan. I am currently employed in a conductives & adhesives product development group leader role for Dow Corning Toray Co., Ltd. of Tokyo, Japan. I have worked in the silicone field for 23 years and I have been employed by Dow Corning Toray Co., Ltd. for the past 23 years.

3. I am the second named inventor of the pending U.S. Patent Application, Serial

No. 10/509,267, and a person highly skilled in the art of silicones including silicone rubber compositions and methods for producing such silicone rubber compositions including, in particular, electrically conductive silicone rubber compositions.

4. In the present application, the invention, an electrically conductive silicone rubber composition, includes (A) 100 parts by weight of an organopolysiloxane having at least two alkenyl groups per molecule, (B) an amount sufficient to cure composition, of an organopolysiloxane having at least two silicon-bonded hydrogen atoms per molecule, (C) an amount sufficient to promote cure of the composition, of a platinum based catalyst, (D) 300 to 5,000 parts by weight of a metal based electrically conductive filler, and (E) 5 to 500 parts by weight of spherical silicone rubber particles with a surface active agent content of greater than 0 but not more than 0.3 wt%.

5. Elaborating now on the importance of our spherical silicone rubber particles with a surface active agent content of greater than 0 but not more than 0.3 wt%, as described in paragraph [0030] of our application, the wt% content of the surface active agent affects viscosity of the electrically conductive silicone rubber composition. For example, the electrically conductive silicone rubber composition exhibits little thickening due to the addition of component (E). Further, with reference to our examples, it is shown that having *higher* than 0.3 wt% of a surface active agent, e.g. 0.5 wt% (see Reference Example 1), leads to marked increases in viscosity, such that homogenous compositions could not be prepared. However, using 0.3 wt% or less of a surface active agent, e.g. 0.1 wt% (see Reference

Example 2), leads to little to no increase in viscosity of the compositions prepared (see paragraphs [0030] and [0037]). As shown through the examples in our application, conventional methods of preparing the electrically conductive silicone rubber composition using a surface active agent results in surface active agent contents that are in excess of those as claimed in our claims (see Reference Example 1), and additional steps are required to lower the surface active agent content (see Reference Example 2).

6. I am aware of, have read, and understand the disclosure of U.S. Patent No. 5,082,596 to Fukuda et al. (the '596 patent), which is entitled "ELECTROCONDUCTIVE SILICONE RUBBER COMPOSITION AND CURED SILICONE RUBBER ARTICLE THEREOF", an equivalent of which is the disclosure of Japanese (JP) Patent No. 02102263A2 to Fukuda et al., and U.S. Patent Publication No. 2002/0049274 to Azechi et al. (the '274 publication), which is entitled "ELECTRICALLY CONDUCTIVE SILICONE RUBBER COMPOSITION", an equivalent of which is the disclosure of JP Patent Specification No. 03703544B2 to Azechi et al.

7. For the reasons described in paragraph 5 above, and in paragraphs 8 through 10 immediately below, the invention in the present application is unique and distinguishable from the '596 patent and the '274 publication. Specifically, the combined teachings of the '596 patent and the '274 publication do not necessarily teach the electrically conductive silicone rubber composition of the present invention. Instead, the combination of the '596 patent and the '274 publication only broadly teaches an electrically conductive silicone

rubber composition, and the electrically conductive silicone rubber composition taught has a higher surface active agent content than the surface active agent content as claimed in our invention.

8. Specifically, after closely analyzing the '596 patent, I can find nothing in the '596 patent that teaches spherical silicone rubber particles having any particular surface active agent content, especially spherical silicone rubber particles having a surface active agent content of greater than 0 but not more than 0.3 wt%, as claimed for our invention. I recognize that the '596 patent describes various methods of making a silicone rubber, including a method of using surface active agents in aqueous solutions to make emulsions that are now well known to those skilled in the silicone art, such as myself. *However*, the '596 patent does not teach a surface active agent content of the silicone rubber made by such methods. In fact, the method described in the '596 patent is silent with regard to an amount of a surface active agent employed to make their emulsions and therefore their silicone rubber (see column 3, lines 48-58), and notably does not even mention the use of a surface active agent in its examples (see generally columns 6 and 7).

9. Upon further investigation of Japanese Patent Kokai 62-257939 (the '939 patent), which is cited in the '596 patent in column 3, line 46, again, there is no teaching of a surface active agent content in an emulsion taught by the '939 patent. Further, in an example of the '939 patent, 3 parts by weight of a surface active agent is used per 110 parts by weight of a curable organopolysiloxane composition. Since this example of the '939 patent was

carried out in the same way as our Reference Example 1 of the present application, the content of the surface active agent will be approximately 0.5 wt%. In other words, the only teaching of the '939 patent is above 0.3 wt% surface active agent content, and is in fact congruent with our Reference Example 1.

10. As described above, I believe that Reference Example 1 of the present application falls within the exact steps of the methods taught by the '596 patent. In addition, it can be concluded that greater than 0.3 wt% of surface active agent content is present in the silicone rubber particles disclosed by the '596 patent, and thus, a teaching of a surface active agent content of greater than 0 but not more than 0.3 wt% is not necessarily present in the '596 patent. To elaborate, first, the '596 patent does not teach a specific amount of surface agent employed to form its silicone rubber, and more importantly, makes no mention whatsoever of an end surface active agent content in its silicone rubber. Second, various amounts of a surface active agent, which can eventually yield a surface active agent content greater than 0.3 wt%, can be used to make the silicone powder of the '596 patent, such as described above with regard to the '939 patent. Third, there is no teaching of any steps that would in fact reduce the surface active agent content of the silicone rubber, and more importantly there is no teaching or even a suggestion of desirability to reduce the content of the surface active agent in the silicone powder. Rather, the '596 patent only teaches a step of spray-drying the emulsion to obtain the silicone rubber from the emulsion. *Conversely*, as described in our application, our spherical rubber particles are generally post-treated, such as

by filtering and rinsing the spherical rubber particles with water, to obtain our desired surface active agent content of greater than 0 but not more than 0.3 wt% (see Reference Example 2 and paragraph [0016] in our application).

Conclusion

11. As a result of my review of the '596 patent and the '274 publication and also as a result of my understanding from a perspective of one skilled in the silicone art, the invention as claimed at the time of filing the patent application presented, and still presents, differences from the '596 patent and the '274 publication both on an individual basis and even when combined. Specifically, even when combined, the '596 patent and the '274 publication do not teach an electrically conductive silicone rubber composition including spherical silicone rubber particles with a surface active agent content of greater than 0 but not more than 0.3 wt%, as in the present invention. In addition, the '596 patent and the '274 publication only broadly teach using surface active agents for formation of rubber particles, which was already well known in the art. One skilled in the art, at the time of filing the present application, would not have linked specific surface active agent contents with these drastic changes in viscosity, as in the present invention, since the methods taught by the '596 patent and the '274 publication only minimally describe the use of surface active agents.

12. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information are believed to be true, and further that these

statements were made with the knowledge that willful and false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or patent issued thereon.

Respectfully submitted,

Feb. 26, 2008

Dated
February 26, 2008

Kazumi Nakayoshi

Kazumi Nakayoshi